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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/803,819	03/13/2001	Teruhiko Hagiwara	7420-081-999	1331

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EXAMINER	
VARGAS, DIXOMARA	
ART UNIT	PAPER NUMBER
2859	

DATE MAILED: 09/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/803,819	HAGIWARA, TERUHIKO	
	Examiner	Art Unit	
	Dixomara Vargas	2859	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 June 2005* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3-9,12-17 and 20-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3-9,12-17 and 20-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 March 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 3-9, 12-17 and 20-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prammer (US 6,005,389 A) in view of Edwards (US 6,452,389 B1).

With respect to claims 3, 12 and 20, Prammer discloses a method for measuring an indication of attributes of materials containing a fluid state, he method comprising the steps of: providing a single time-domain signal indicative of attributes of said materials (Column 3, lines 32-36; Figures 8A and 9B); constructing a time domain averaged data train from said signal (Column 4, lines 3-21), the averaging being performed over one or more time intervals (Column 8, lines 12-18; Figures 2 and 5), and computing an indication attributes of said materials from the time-domain averaged data train (Column 4, lines 18-21).

Prammer discloses the claimed invention as stated above except for the step wherein at least two of said two or more time intervals are different. However, Edwards discloses the step wherein at least two of said two or more time intervals are different (Figure 3). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use Edwards' step wherein at least two of said two or more time intervals are different with Prammer's method for measuring an indication of attributes of materials containing a fluid state

for the purpose of having resulting data with substantially uniform resolvability of the relaxation time distribution as taught by Edwards (Column 6, lines 20-31).

3. With respect to claim 4, Prammer discloses the following expression is used to construct the time-domain average data train: $S_j(t) = I_t^{t+} dt' S(t') /)$; where $S_j(t)$ is the provided time-domain signal (Column 11, line 10, equation #5).

4. With respect to claims 5, 15 and 23, Prammer discloses the interval)i is fixed and the time-domain averaged data train is constructed at times $t = t_0, t_0 +), t_0 + 2), \ldots t_0 + N)$ (Column 8, lines 12-18).

5. With respect to claim 6, Prammer discloses the time-domain signal is an NMR echo train (Figures 8A and 9B).

6. With respect to claims 7, 16 and 24, Prammer discloses computing an indication of attributes is performed using inversion of the constructed time-domain averaged data train into T_2 domain (Column 9, lines 25-40).

7. With respect to claims 8, 17, 25 and 27, Prammer discloses the T_2 distribution is estimated using the following expression: $S_j(t) = 3_{(T_2)} N(T_2) \exp(-t/T_2)(1- \exp(-) / T_2)) +$ Noise where $N(T_2)$ is the porosity corresponding to the exponential decay time T_2 (Column 10, lines 55-60, equation #3).

8. With respect to claims 9, 13, 21 and 28, Prammer discloses averaging two or more constructed time-domain averaged data trains to increase the signal-to-noise ratio (SNR) of the measurement (Columns 5 and 11, lines 38-42 and 24-32 respectively).

9. With respect to claims 14 and 22, Prammer discloses the following expression is used to construct the time-domain averaged data train: $Echo_{)}(t) = I_{t}^{t+)} dt' Echo(t') /)$ where $Echo_{)}(t)$ is the provided time-domain signal (Column 11, lines 1-5 equation # 4).

10. With respect to claim 26, see rejection of claims 3-5 above.

Response to Arguments

11. Applicant's arguments filed 06/27/05 have been fully considered but they are not persuasive. Applicant argues that the combination of Prammer in view of Edwards fails to teach or fairly suggest the step of providing a single time domain signal with different time intervals since even though Prammer discloses the measurement been of a single type, it fails to disclose the different intervals for said single measurement and Edwards fails to cure the deficiency because even though different time intervals are shown, the different time intervals are applicable to more than one measurement an not to a single measurement .

12. The examiner disagree with applicant arguments because Prammer disclose the step of a single time domain signal (Abstract reciting: "Various attributes of the material being investigated can be derived in a single measurement"), however, Prammer does not specify if the time intervals are different or the same. Edwards discloses having different time intervals during multiple measurements, however, it also includes the possibility of having said procedure of different time intervals with different frequencies for individual measurement sequences (Column 7, lines 16-22). Therefore, Edwards discloses the possibility of having said different time intervals during each single measurement as disclosed in the rejection above. In addition, it is pointed out that the secondary reference (Edwards) does not need to disclose all the limitations

taught by the primary reference (Prammer). This modification of the basic reference in light of the secondary prior art is proper because the applied references are so related that the appearance of features shown in one would suggest the application of those features to the other. See In re Rosen, 673F.2d 388, 213 USPQ 347 (CCPA 1982); In re Carter, 673 F.2d 1378, 213 USPQ 625 (CCPA 1982), and In re Glavas, 230 F.2d 447, 109 USPQ 50 (CCPA 1956). Further, it is noted that case law has held that a designer skilled in the art is charged with knowledge of the related art; therefore, the combination of old elements, herein, would have been well within the level of ordinary skill. See In re Antle, 444 F.2d 1168,170 USPQ 285 (CCPA 1971) and In re Nalbandian, 661 F.2d 1214, 211 USPQ 782 (CCPA 1981). For the reasons stated above, the 35 U.S.C. 103(a) rejection is maintained and considered to be proper.

13. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dixomara Vargas whose telephone number is (571) 272-2252. The examiner can normally be reached on Monday to Thursday from 8:00 am. to 4:30 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on (571) 272-2245. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dixomara Vargas
Art Unit 2859
January 19 2005

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